REMARKS

The Examiner, Mr. Hannaher, is thanked for his courtesies extended during the telephonic interview conducted August 11, 2003, and for his assistance in furthering the prosecution of the present application.

During the interview, the rejection of the claims under 35 U.S.C. 112, 1st ¶ was discussed. In particular, the rejection of claim 1 as being non-enabled was discussed. In addition, the rejection of the claims based on the prior art of record was also discussed. The above amendments, as well as the following remarks, address and expand on the subject matter of the interview.

Applicants acknowledge the indication that claims 2-7, 13, 25, and 30 contain allowable subject matter. Claims 1-30 are pending. Claims 1, 2, 5, and 18 have been amended. Claims 17 and 29 have been canceled, where the subject matter thereof has been incorporated into claims 1 and 18, respectively. In that claims 17 and 29 have been previously considered, Applicants respectfully assert that the foregoing claim amendments do not raise new issues that will require additional search and/or consideration. No new matter has been added by way of this amendment. Reconsideration of the application is respectfully requested.

Claims 1-30 stand rejected under 35 U.S.C. §112, 1st ¶, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most clearly connected, to make and/or use the invention. In particular, the Examiner has stated that the diffusion barriers 102,103 shown in Fig. 4 cannot serve

to isolate the solid state nuclear track detector from *radiation* without limitation. In response to this ground of rejection, Applicants have amended claim 1 in a manner that is believed to resolve the identified insufficiency. Therefore, reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1, 8-12, 14-24, and 26-29 stand rejected as being unpatentable over U.S. Patent No. 5,134,297 to *Harley* et al. in view of U.S. Patent No. 4,975,574 to *Lucas*. For the following reasons, this rejection is traversed.

Claim 1 has been amended to recite, *inter alia*, the limitation "a cap covering the [first/second] housing; said cap having at least one hole for permitting entry of ambient air into the internal volume of space and conducting foam for preventing entry of dust therein... ." Claim 1 has also been amended to recite that the diffusion barrier in both the second and third housing is for "blocking thoron radiation."

The *Harley* et al. patent is directed to a device for measuring a person's actual exposure to radon gas over a period of time (see col. 3, lines 26-38). On the other hand, the *Lucas* patent is directed to a method and apparatus for detecting and accurately measuring the mean concentrations of radon and thoron in a gas mixture (see *Abs.*).

Set forth on page 3 of the Office Action is that statement that:

> "[T]he radiation monitor of Harley *et al.*...further comprises another solid state nuclear track detector which is generally isolated from radiation in the internal volume of space of the housing (column 7, lines 51-57) but it is not in a separate chamber. Lucas discloses a radiation monitor comprising a first chamber 22a with a hole 23A and first solid

> state nuclear track detector 30 and a second chamber 22B with a hole 23B and second solid state nuclear track detector 30. In view of the advantageous shielding of second solid state nuclear track detector 30 in the second chamber 22B from unintentional and stray alpha radiation as described by Lucas (column 9, lines 22-44) it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the radiation monitor 20 of Harley *et al.* to comprise a second chamber for the additional solid state nuclear track detector 64 which is generally isolated from radiation. The radiation monitor 20 of Harley *et al.* further comprises ***diffusion barrier 37*** (column 5, lines 56-62). In view of a third solid state nuclear track material in the radiation monitor 20 of Harley *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the radiation monitor further to establish a separate chamber therefor such that each detector responded only to radiation from its own internal volume of space." [Emphasis Added]

With respect to the foregoing, Applicants respectfully assert that the combination of the the *Lucas* patent with the *Harley* et al. patent fails to teach "a cap covering the [first/second/third] housing; said cap having at least one hole for permitting entry of ambient air into the internal volume of space and conducting foam for preventing entry of dust therein... ."

With reference to attached Fig. 4 of the present invention, shown therein is a diagram illustrating a cross-sectional view of chambers 12 and 13 in an embodiment of the monitor 20 according to the invention (see Exhibit A). From bottom to top, the chamber (12 or 13) comprises an SSNTD film (112 or 113), a metallized MYLAR® sheet (122 or 123), an O-shaped insert (82 or 83), a diffusion barrier (102 or 103), an O-ring seal (92 or 93), a cap (72 or 73) with a conducting foam (142 or 143), and a screw thread closure (132 or 133) for receiving the cap. The conducting foam prevents entry of the radon and thoron decay products and protects the detection chamber from nuisance dust. The diffusion barrier serves to prevent entry of thoron into the chambers 12 and 13.

With reference to attached Fig. 5 of the invention, shown therein is a diagram illustrating a cross-sectional view of chamber 11 (see Exhibit A). Chamber 11 is generally the same as chambers 12 and 13 as shown in Figure 4, except that chamber 11 does not include the diffusion barrier (102, 103). As in chambers 12 and 13, the chamber 11 comprises an SSNTD film 111, a metallized MYLAR® sheet 121, an O-shaped insert 81, an O-ring seal 91, a cap 71 with a conducting foam 141, and a screw thread closure 131 for receiving the cap 71. As before, The conducting foam prevents entry of the radon and thoron decay products and protects the detection chamber from nuisance dust. However, as stated, there is no diffusion barrier in chamber 11.

In contrast, the combination of the *Harley* et al. and *Lucas* patent only shows conducting foam 37. It is this conducting foam that is referenced as the diffusion barrier set forth and claimed in independent claim 1. In rejecting dependent claims 17 and 23, the same item is referenced as the conducting foam that is located in the cap of the first, second, and third housing set forth in claim 1. Therefore, Applicants respectfully assert that the combination of the *Harley* et al. and *Lucas* patents fail to teach both a respective cap covering the first, second, and third housing, where each cap has at least one hole for permitting entry of ambient air into the internal volume of space and conducting foam for preventing entry of dust therein, and a diffusion barrier in both the first and second housing for blocking thoron. The conducting foam as taught in *Harley* et al. is a diffusion barier. However, the *Harley* et al. patent contains only one diffusion barrier in the monitor, whereas the persent invention requires two diffusion barriers in the second and third chambers, respectively.

The claims call for a radon and thoron radiation monitor that uses alpha-track detection film in multiple, separate chambers to detect radiation. The invention further describes the use of different diffusion barriers in the chambers to allow for signal differentiation between the chambers. The signal differentiation permits differentiation between the levels of thoron and radon in the atmosphere tested. This is reflected by independent claim 1 that recites the elements of "a first chamber...and a third chamber... ." Claim 1 also recites the limitation "a cap covering the [first/second] housing; said cap having at least one hole for permitting entry of ambient air into the internal volume of space and conducting foam for preventing entry of dust therein... ." As further set forth in claim 1, "a diffusion barrier [is provided] within the second" chamber. In addition, "a diffusion barrier [is provided] within the third" chamber. This claimed structure permits the radon gas to enter all three chambers, but prevents entry of the thoron gas into the second and third chambers.

In view of these differences, Applicants respectfully submit that the claimed structure of the invention is not taught by the combination of the *Harley* et al. and the *Lucas* patents. Accordingly independent claim 1 is patentable over the combination of these references and therefore, reconsideration and withdrawal of the rejection are respectfully requested.

In light of the patentability of independent claim 1, for the reasons above, all the dependent claims are also patentable over the prior art.

Based on the foregoing amendments and remarks, this application should be in condition for allowance. Early passage of this case to issue is respectfully requested. However, if there are any questions regarding this amendment, or the application in general, a telephone call to the

undersigned would be appreciated since this would expedite the prosecution of the application for all concerned.

Dated: August 18, 2003

Respectfully submitted,

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EXHIBIT A

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TC102

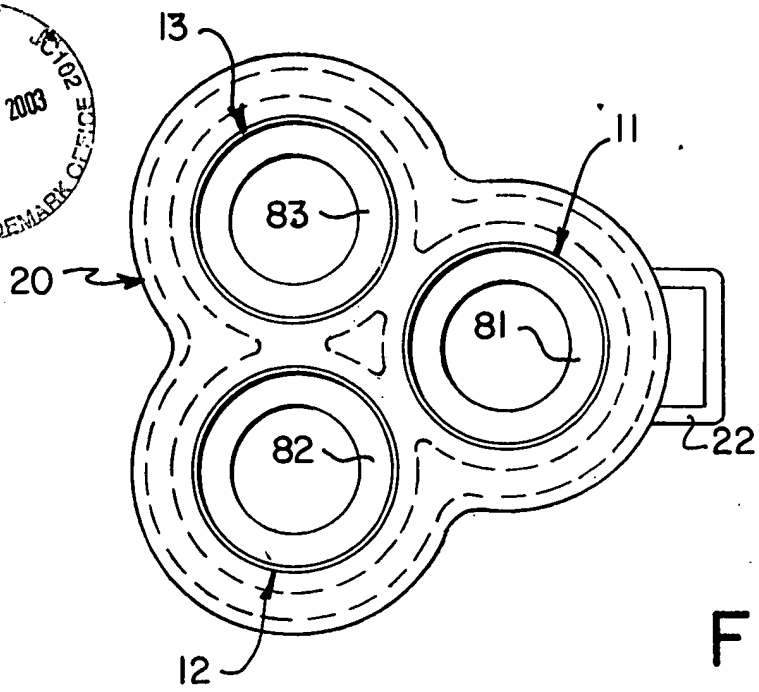
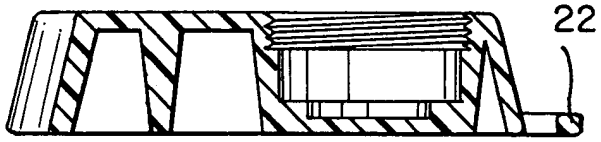


FIG. 3B

FIG. 3C



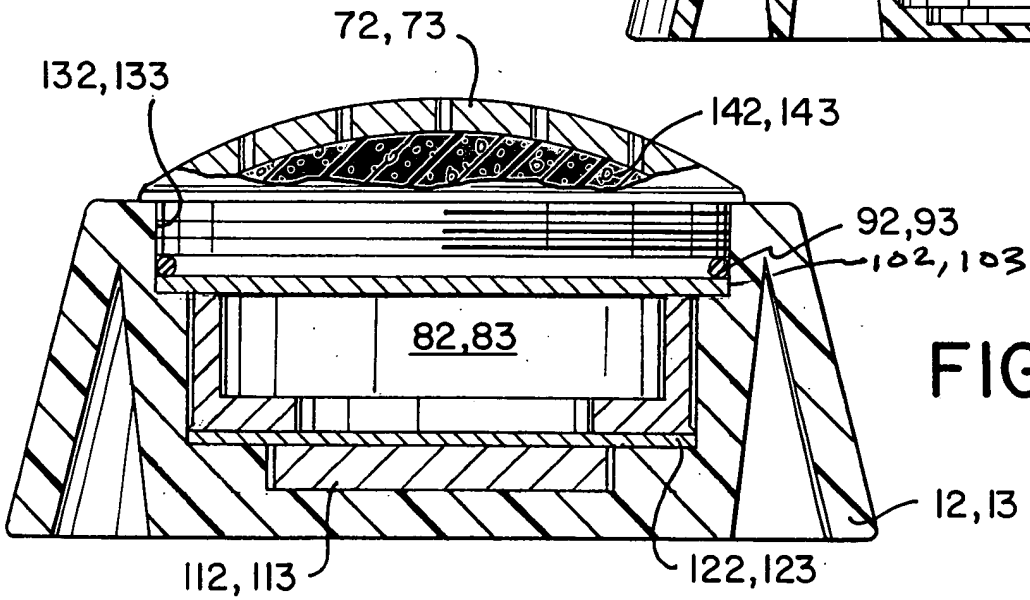
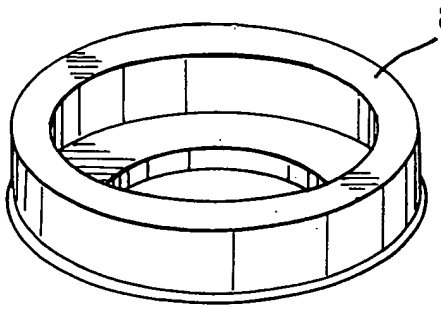


FIG. 4

FIG. 4A

FIG. 4B



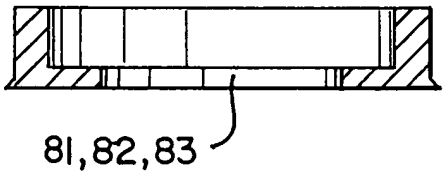


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FIG. 4C

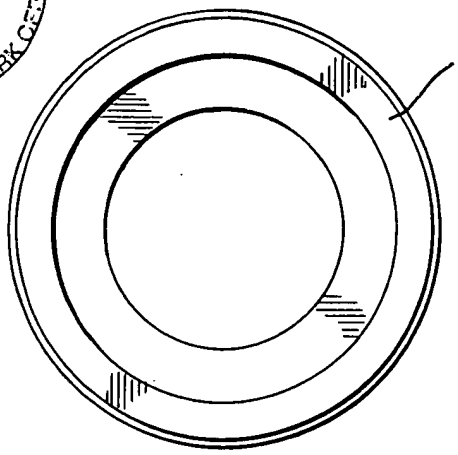
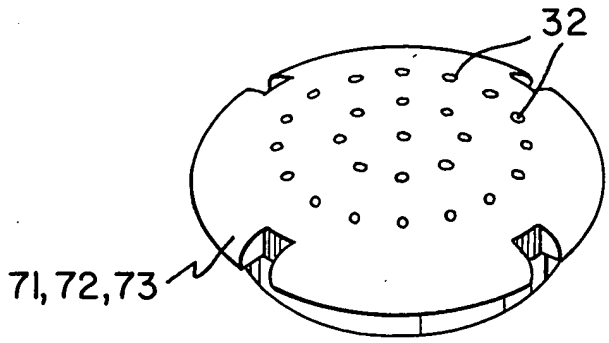


FIG. 5A



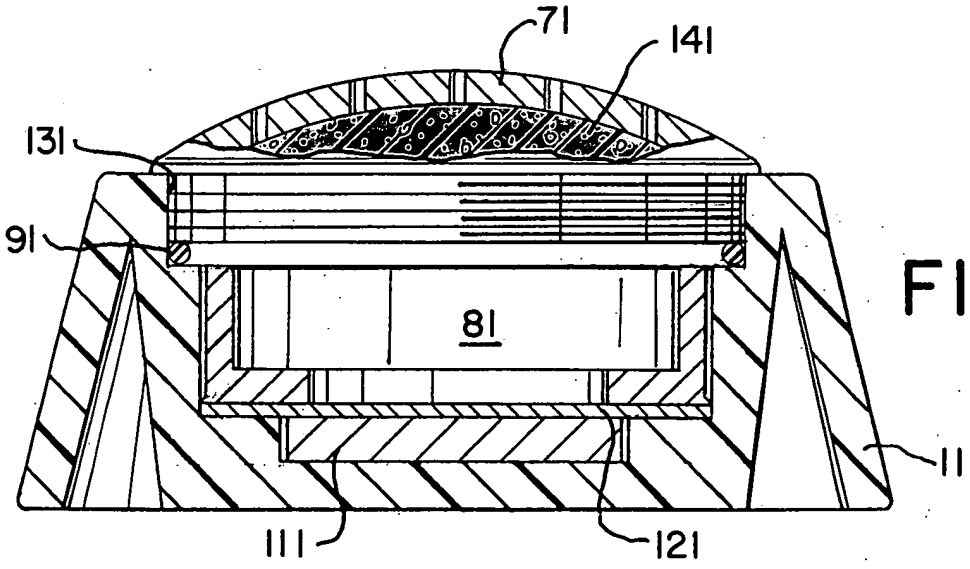


FIG. 5

FIG. 5C

FIG. 5B